

**DIAGNOSIS MOLEKULER  
INFEKSI VIRUS HEPATITIS C**

**ALMURDI**  
Bag. Patologi Klinik FKUA

## Introduction

- The principle of the PCR is elegantly simple, but the resulting method is extremely powerful

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### ? MOLECULAR TESTS

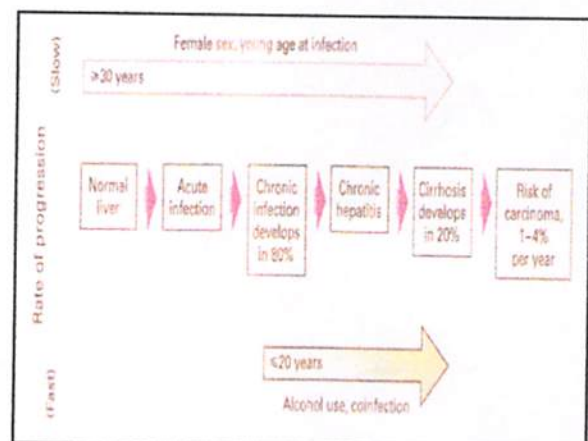
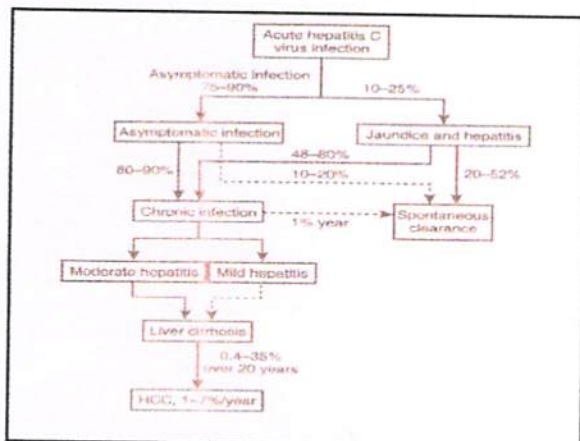
- Difficult to isolate
- Time – consuming
- Laboratory tests are lacking
- Genes that confer resistance to antimicrobial agents
- Identify new organisms

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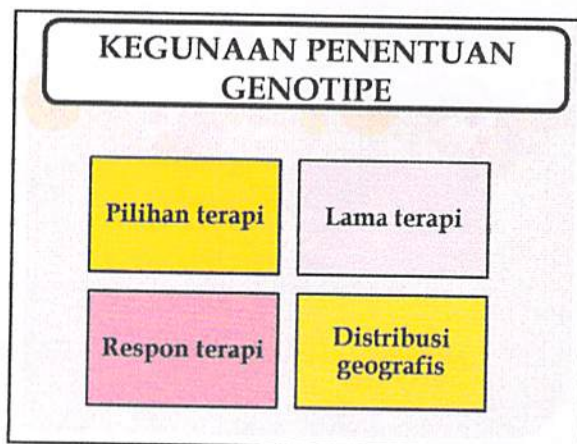
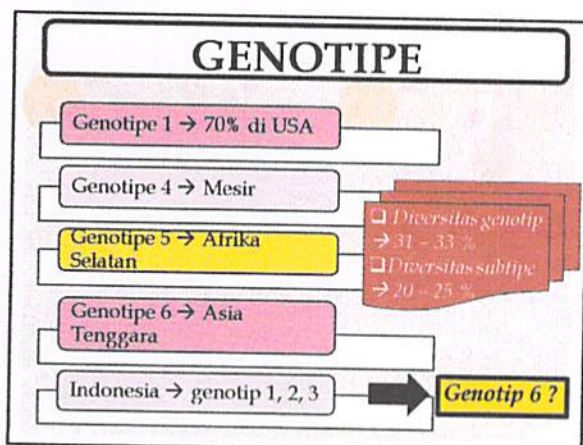
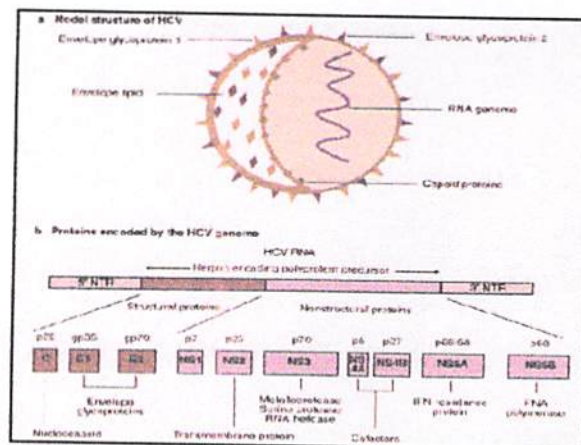
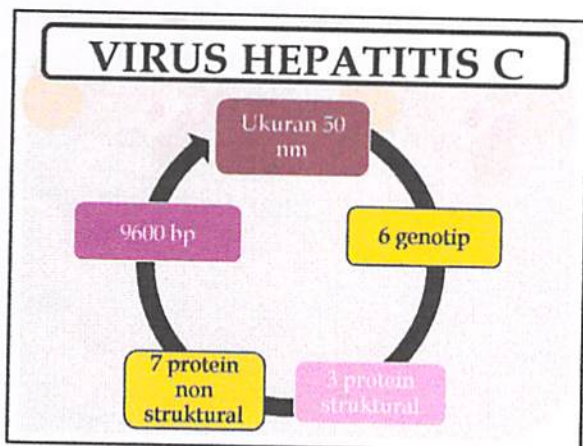
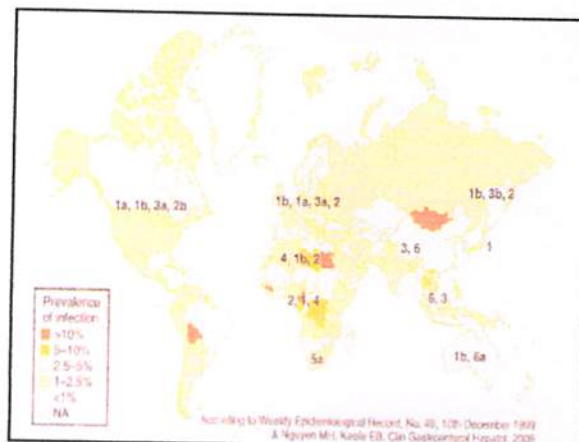
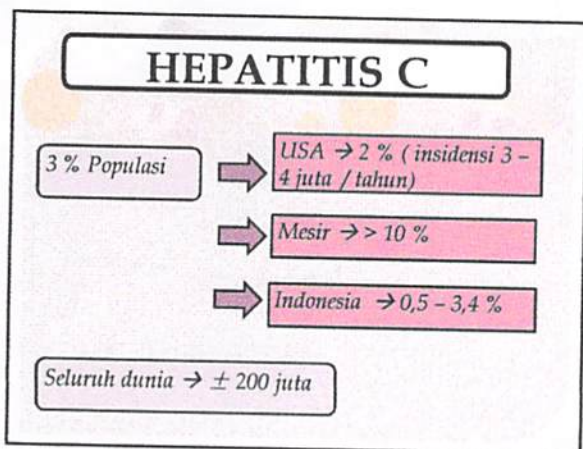
## HEPATITIS C

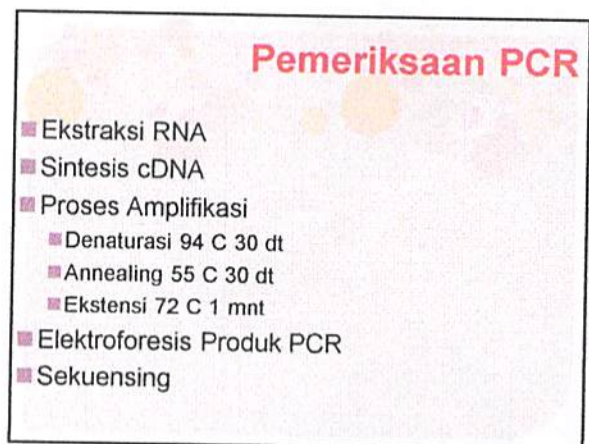
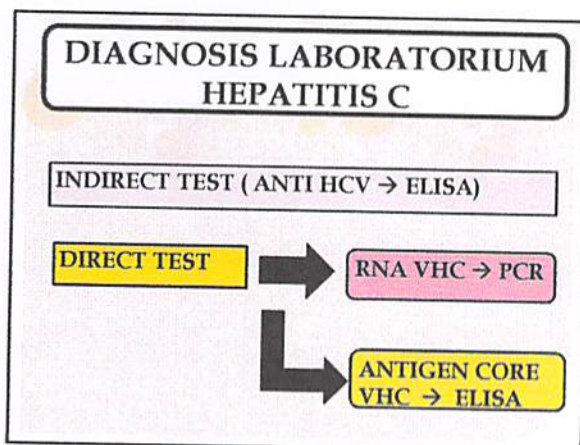
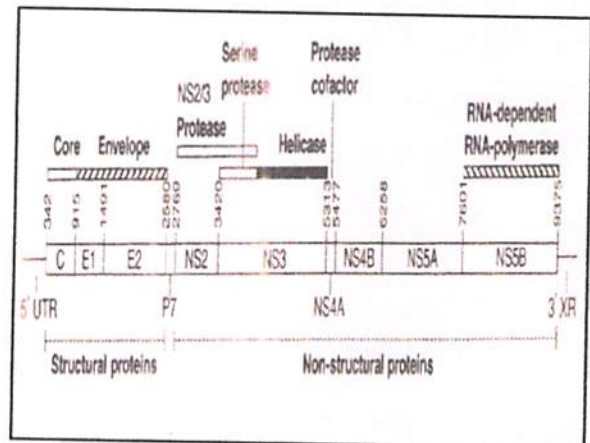
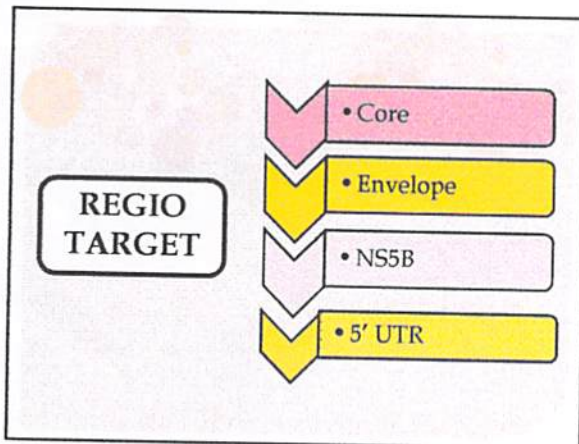
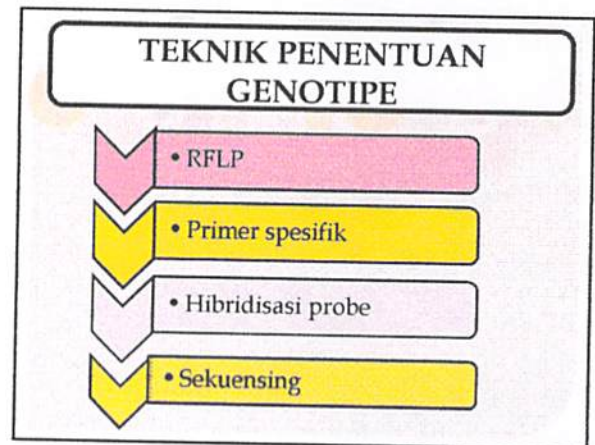
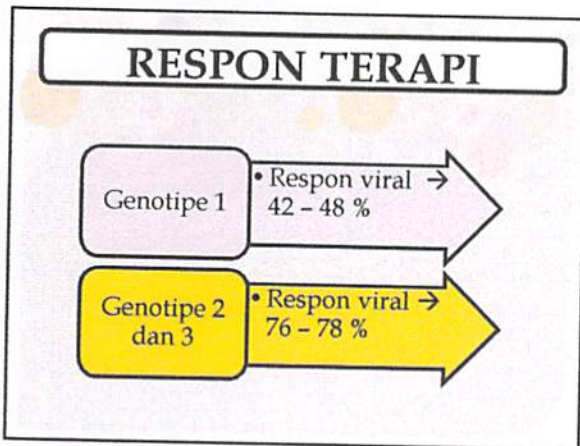
**VIRUS HEPATITIS C**

- ❖ masalah penyakit hati
- ❖ 85% → hepatitis kronik
- ❖ infeksi kronik → SH
- ❖ 1-4% → HCC



but "soften" +





blank	PCR	12/05/2014 11:05:40	0,0	ng/μl RNA
R5	PCR	12/05/2014 11:08:05	66,4	ng/μl RNA
R7	PCR	12/05/2014 11:08:48	54,4	ng/μl RNA
R8	PCR	12/05/2014 11:09:35	56,0	ng/μl RNA
R9	PCR	12/05/2014 11:10:15	35,7	ng/μl RNA
R10	PCR	12/05/2014 11:10:55	59,4	ng/μl RNA

D00944

Agarose gel electrophoresis image showing multiple lanes of DNA bands. The lanes are numbered 1 through 10, corresponding to the samples in the adjacent table. Lane 1 is the blank control, and lanes 2-10 show PCR products of varying intensity.

Agarose gel electrophoresis image showing multiple lanes of DNA bands. The lanes are numbered 1 through 10, corresponding to the samples in the adjacent table. Lane 1 is the blank control, and lanes 2-10 show PCR products of varying intensity.

Agarose gel electrophoresis image showing multiple lanes of DNA bands. The lanes are numbered 1 through 10, corresponding to the samples in the adjacent table. Lane 1 is the blank control, and lanes 2-10 show PCR products of varying intensity.

Primer-BLAST Primer-Blast results

NCBI/BLAST/12/11/2017: results: Job id=XL9LIEMKADLXmjcg0hXWkgE0a6Pw5J

Input PCR template: none

Specificity of primers: Target templates were found in selected database: Nucleotide collection (nt) (Organism limited to Hepacivirus)

Other reports: none

Detailed primer reports

Primer pair NS5B-1 dan NS5B-2

	Sequence (5'→3')	Length bp	Tm	GC %	Self complementar ity	Self 3' complementar ity
Forward primer	TATGACACCCCGCTGTTTGA	21	60.9	52.3	3.00	1.00
Reverse primer	GAGGAGCAAGATGTTATCA GCTC	23	58.9	47.8	6.00	5.00

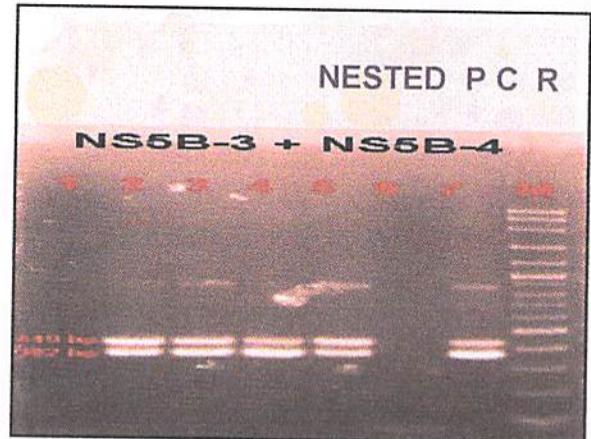
Products on target templates

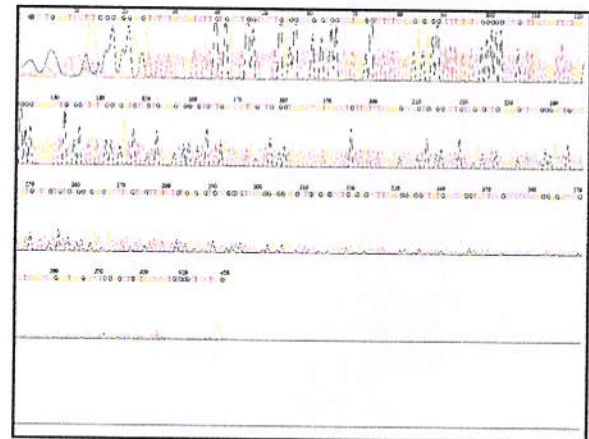
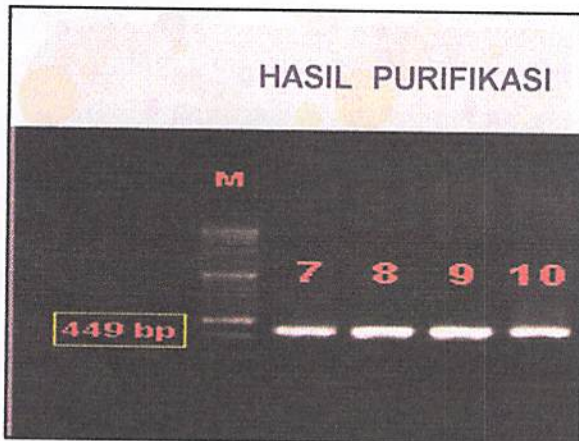
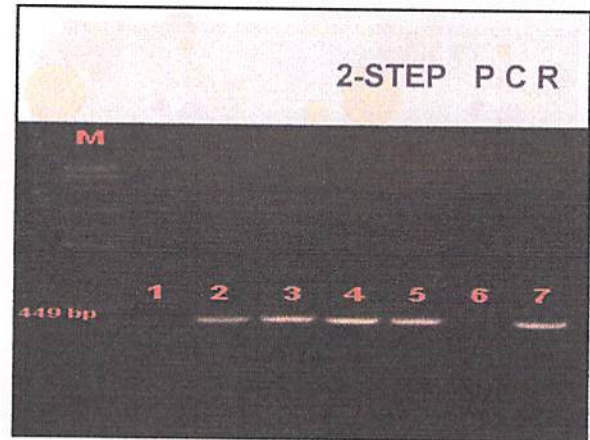
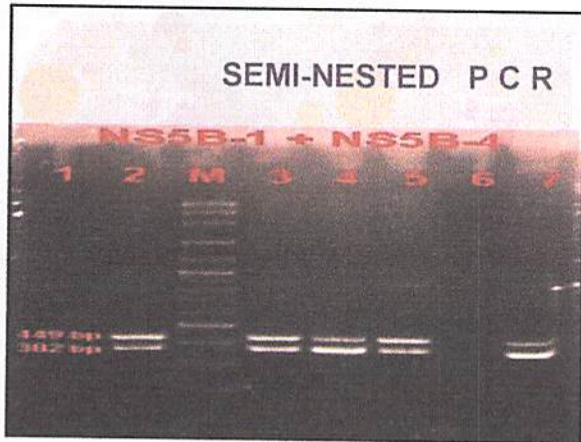
Hepatitis C virus isolate F/Ind0565 polyprotein gene, complete cds

Product length = 449

Forward primer: 1 TATGACACCCCGCTGTTTGA 21  
 Position: 9291 .. 9311

Reverse primer: 3 GAGGAGCAAGATGTTATCA 23  
 Position: 8739 .. 8862





Download Accession	Gene/Protein	Country	Year	Description	Score	E-value	Identifiers	Location of motif in genome
U02204	NS5B	FR	1997	Hepatitis C virus isolate H71475, protein NS5B, gene, full-length	82	0.0	24720	1-81-81-81-81-81
F01551	NS5B	FR	1998	Hepatitis C virus isolate H943105, gene, full-length	80	0.0	24620	1-81-81-81-81-81
U02202	NS5B	FR	1997	Hepatitis C virus isolate H71475, protein NS5B, gene, full-length	80	0.0	24620	1-81-81-81-81-81
U02203	NS5B	FR	1997	Hepatitis C virus isolate H71475, protein NS5B, gene, full-length	80	0.0	24620	1-81-81-81-81-81
U02201	NS5B	FR	1997	Hepatitis C virus isolate H71475, protein NS5B, gene, full-length	80	0.0	24620	1-81-81-81-81-81
U02200	NS5B	FR	1997	Hepatitis C virus isolate H71475, protein NS5B, gene, full-length	80	0.0	24620	1-81-81-81-81-81
U02199	NS5B	FR	1997	Hepatitis C virus isolate H71475, protein NS5B, gene, full-length	80	0.0	24620	1-81-81-81-81-81
U02198	NS5B	FR	1997	Hepatitis C virus isolate H71475, protein NS5B, gene, full-length	80	0.0	24620	1-81-81-81-81-81
U02197	NS5B	FR	1997	Hepatitis C virus isolate H71475, protein NS5B, gene, full-length	80	0.0	24620	1-81-81-81-81-81
U02196	NS5B	FR	1997	Hepatitis C virus isolate H71475, protein NS5B, gene, full-length	80	0.0	24620	1-81-81-81-81-81

Query: 1...  
 Subject: 1...  
 Query: 2...  
 Subject: 2...  
 Query: 3...  
 Subject: 3...  
 Query: 4...  
 Subject: 4...  
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 Subject: 6...  
 Query: 7...  
 Subject: 7...  
 Query: 8...  
 Subject: 8...  
 Query: 9...  
 Subject: 9...  
 Query: 10...  
 Subject: 10...

**Tabel 5.3 Prevalensi genotip virus hepatitis C di Sumatera Barat**

Genotip	Subtipe	Jumlah	(%)
1		29	82,86
	1a	19	54,29
	1b	4	11,43
	1c	6	17,14
2	2e	1	2,86
3		5	14,29
	3a	1	2,86
	3k	4	11,43
Undeterminate		1	
TOTAL		36	100,00

■ **Spesimen undeterminate**

- Shemis *et al.*, (2012) : 3 spesimen --- karena viral load rendah
- Sistayanarain *et al.*, (2011) : 7 spesimen
- Afridi *et al.*, (2009) : 9 spesimen
- Brook *et al.*, (2010) : ulangan pemeriksaan HCV RNA untuk konfirmasi

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